

GILLETTE (A. J.)

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— AS —

A SPECIALTY.

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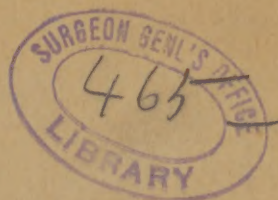
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DISEASES OF THE HIP JOINT.

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ST. PAUL, MINN.





ORTHOPEDIC SURGERY AS A SPECIALTY.*

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When the term orthopedic is used it seems to suggest to the general practitioner keys, steels, straps, buckles and a fair mechanical head.

The orthopedist is regarded as a man who requires very little knowledge of medicine, surgery, physiology, anatomy or pathology. The only variation in his treatment is the difference in the size and age of his patients requiring a little different measurement for the special brace which he is supposed to employ for each deformity.

Yet the general practitioner is not to blame for regarding us in this light. Looking over the literature of orthopedic surgery, one is led to believe that it consists only of mechanical-therapy, and there are so many braces, cuts of which will be found in all the instrument makers' catalogues, with proper names for a handle, for instance, "Shaffer's Knee Brace," "Sayer's Hip Splint," "The Thomas Hip Splint," etc., etc., leading one to believe that the inventors of these appliances never employ anything else in the treatment of these diseases.

I am free to confess that this was my impression until I knew these men personally and found that they used common sense as well.

The general practitioner has a usual course of treatment in pneumonia or typhoid fever, the surgeon in fractures and dislocations, the ophthalmologist in his work, but each varies his treatment according to the complications, environment and constitution of his patient.

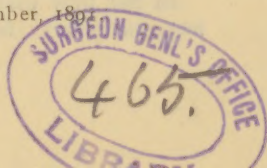
We are often asked "what brace do you use for knee joint disease, whose splint for hip disease, what is your cure for torticollis," as though we could treat these cases by rule as you would do a sum in arithmetic, never stopping to consider the etiology, or pathology, the age, habits, occupation, mental temperament or constitutional condition of the patient.

In some of the diseases which the orthopedist is called upon to treat, a brace plays about as important a part as Sim's speculum does in the treatment of uterine diseases.

A young lady consulted me some time ago suffering with tuberculous synovitis of the knee joint. She was very much emaciated, had no appetite, had not had a good night's rest for months, her bowels did not move oftener than twice a week and she had not menstruated for three months. How little I should have accomplished had my treatment consisted solely in the application of Shaffer's knee splint. Had I not built her up constitutionally she would be but little better off today than when she first visited me.

A little boy under my care, at present in St. Luke's Hospital

*Read before the Minnesota Valley Medical Society, December, 1892



suffering from tuberculous disease of both knees, tuberculous disease of the right tarsus and of the hand, temperature ranging every evening from 101 to 102½ degrees, is suffering more constitutionally than from his local disease.

In either of these cases all that was necessary as regards the local treatment was rest, and you may employ whatever you choose to accomplish this.

In some cases where the reflex spasm is very slight, an ordinary ham splint, tightly bandaged to the limb, will secure rest; in other cases, especially in children, a plaster cast applied from the toe to the groin will relieve pain as well as secure perfect rest of the joint; in adults it is usually well to apply extension weight and pulley from the leg. Above all, avoid forcibly straightening the knee when flexed where it is due to reflex spasm; a few repeated dressings, and it can be straightened, and then if you wish to allow the patient the benefit of out door exercise do so with the use of crutches and a high shoe on the well foot.

Most important of all, build up your patient, for you cannot expect a local improvement from local treatment alone where a constitutional disease is indicated.

In some cases braces do harm, more especially in lateral curvature of the spine where there is lack of development of one side of the muscles, or an over development, for it immobilizes the muscles and by not allowing the normal use of them really assists in increasing the deformity, thus causing more or less atrophy from disuse.

Many of these cases when they come to me are unable to go about when I first remove the brace, from lack of development on one side due to the weakened condition of the back from disuse.

I have a little girl under my care at present, who when she came to me was wearing a brace (Fig. 1) the theory of which was a hip band with uprights or crutches attached which fit under the arm to keep the shoulders and back in the correct position and check the increase of the deformity. Now if the shoulders were like the pelvis, a fixed point, this theory would be a good one, but if we look at the anatomy of the shoulder joint and realize that it is freely movable in every direction, and that you can raise them until they almost touch the ears without affecting the spine one bit, it will be seen at once that this brace in regard to that is useless. Then, too, the argument in favor of this brace is sometimes used, that in lateral curvature you have one shoulder higher than the other and the crutch will overcome this. This is true, but you are not treating lateral curvature when you do this, you are only treating one of its symptoms. The wide band which extends from the spinal upright about the chest and in front back to the pelvic band on the opposite side and buckled there, at first glance would seem to be of some benefit, but a closer examination will show the theory not practical but rather impractical and evil in its effects.

In the first place, the upright to which it is attached behind is not stationary, for the pelvic band to which the upright is at-

tached below is not the shape of the pelvis, and therefore fails to fix the only portion of the support where fixation is possible.

The shoulder straps do not make the upper end of this upright fixed; then, too, if this upright was stationary it would still fail to fulfil the office designed for it, as the wide strap is brought around the chest across the abdomen back to the pelvic band, therefore

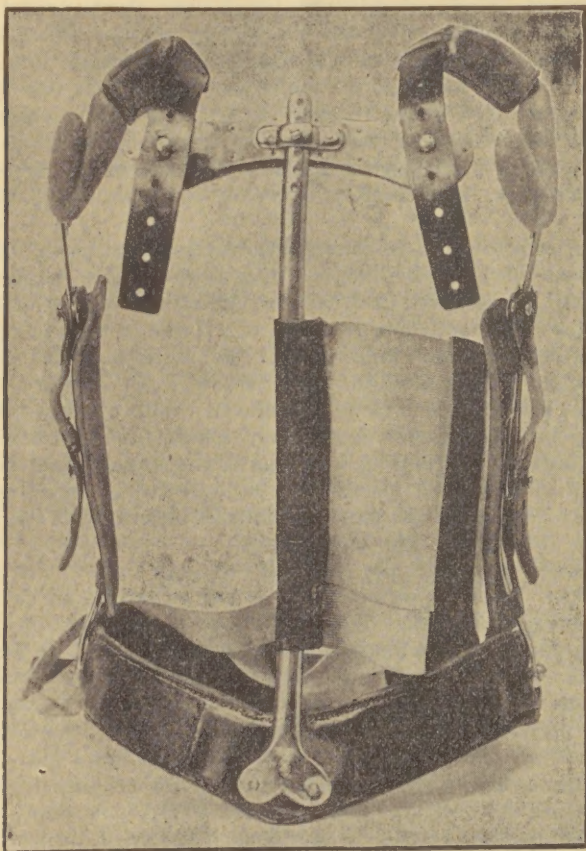


FIG. I.

making all its pressure on the abdomen and anterior portion of the chest. Thus you see its only effect is to retard thoracic respiration, whereas it should be the object of the surgeon to encourage development of the thoracic cavity, and the muscles of its walls. For in post mortem examination of subjects affected with lateral curvature, the muscles of the thorax have been much degenerated and the diaphragm excessively developed, showing that respiration in these cases is chiefly diaphragmatic, and therefore one important object of treatment should be to encourage the expansion of the thorax. When I removed this brace from the little girl, it was with an effort that she stood alone, but in a few days

without one bit of treatment she stood straighter, so much so that the neighbors remarked how the child was improving, yet the only thing I had done was to remove the brace. The cause of this change by so simple a procedure was simply this: the muscles of the back were very much atrophied when the brace was first applied, and the reason she did not hold her spine straight was because of the lack of tonicity; the brace was then applied and she placed every confidence in it, relaxed all of the muscles of her back and sank into the brace without an effort to hold herself erect. When I removed the brace she did exactly the opposite, for she was obliged to use the muscles in the attempt to stand erect, and hence was removing the cause of her lateral curvature. You see the cause of her disease suggests the treatment, exercise, massage, electricity, any thing to develop the muscles in the right direction.

How absurd it would be to treat beginning lateral curvature due to rickets with a brace, when the use of proper exercise, proper food, lime, soda, phosphorus and hygiene are all that are indicated.

Find the cause and then remove it. If due to an improper desk in the school-room, too high or too low; in girls, if due to horse-back riding, I have seen one case where I am positive this was the cause; another case of a boy eleven years old who practised at the piano five hours each day, sitting on a stool without any support to his back and so high that his feet could not touch the floor—all of these causes can be and should be removed.

Another very common cause of lateral curvature is the inequality of the length of the lower limbs.

This was brought very forcibly to my mind about three months ago, when I was treating a case of lateral curvature with little or no improvement. The mother asked me one day if I did not think one limb was longer than the other. I found by measuring a difference of $\frac{3}{4}$ of an inch, and that placing a book under the foot of the shorter limb I decreased the curve of the spine. It was very humiliating, for of course before this I was aware that this is one of the causes of lateral curvature, but I had not been systematic enough in my examination as to the etiology of the case.

In the treatment of hip joint disease there is a good natured quarrel at present among orthopedists, between those who believe in traction and those who advocate fixation. One claims he can not cure a case without Sayer's long splint, another that this splint does harm by permitting motion of the joint, and that the Thomas' splint is the only brace from which you can expect any result in hip joint disease.

I have found cases in which traction was the only thing that would relieve pain, that the simple Thomas splint would not; I have also had cases where the Thomas splint was all that was necessary and where extension caused pain; other cases which required extension and abduction to relieve pain.

I have at present two most promising cases in dispensary practice where I am using simply a long board, well padded, extending from the lower angle of the scapula to within a few inches of

the heel, and the limb and trunk securely bandaged to with this, a high shoe on the well foot and the patient using crutches; another I am treating in about the same way with a plaster of Paris spica to immobilize the hip.

I enumerate these different forms of treatment to prove my assertion that it is not necessary to rely upon any particular brace, but to meet the indications with no matter what, weight and pulley, long splint, plaster of Paris or sole leather splint.

Many practitioners who live out of the city and are not able to have a special brace made in the town in which they reside, often send to some instrument maker with the measurements of their case to have some form of hip splint made which is figured in the instrument maker's catalogue, allowing their patient to go without treatment of any kind until the brace is made and shipped to them, thus allowing the most favorable time in which to begin treatment to slip by, the inflammation in the joint increasing day by day and the patient's constitution on the downward grade, instead of applying some simple appliance to relieve the patient as much as possible.

To illustrate my point, the other day an instrument maker came to me and wished some information in regard to a brace which he was making for a doctor. It was then three weeks from the time the doctor took the measurements up to the time when the instrument maker visited my office, the child had not had any treatment, and it would be at least a week longer before the brace would be finished, permitting one month to elapse, you see, from the time the doctor diagnosed the disease until it was treated, and that too, provided the brace is a fit after he does receive it. If he did not have ingenuity enough to manufacture some form of appliance to immobilize the joint while the brace which he was desirous of using was being made, he certainly could have kept the child in bed and thus relieve the trauma every time the child took a step.

Then, too, I believe many of these cases, if not all, are not tuberculous in the beginning, but are due to injury. Certainly we have many cases where it cannot be questioned from the history, that it was due to trauma subsequently becoming tuberculous by inoculation, and if early diagnosed and treated these cases can be cured in a few weeks, and do not become chronic or tuberculous although the symptoms are those of tuberculous hip joint disease.

I have had two cases of undoubted hereditary syphilitic hip joints which resembled as far as pain and reflex spasm are concerned, ordinary so-called hip joint disease. About six weeks of anti-syphilitic treatment cured the cases.

About two months ago an old lady was sent me from a neighboring city, suffering from inflammatory flat-foot. The arch of the foot was completely broken down and every step caused great pain, until finally she was scarcely able to walk, suffering the most intense pain night and day.

I applied the customary steel sole to support the arch but with no signs of improvement. Most of the night was spent in walking

the floor, wringing her hands and crying; she refused to eat and would talk of nothing but her feet. She had passed through six physicians' hands before coming to me, and had given up every hope of being cured or even relieved. She was continually declaring that she would never recover and insisted on making preparations to die. I shortly saw that if ever I expected to do anything with this case without the employment of something besides the steel soles to raise the arch of the foot, I should only meet with disappointment.

I therefore insisted that she be taken to St. Joseph's Hospital where I could be sure that my instructions were complied with.

I then placed a pledget of cotton beneath the arch of each foot, and while Dr. Brimhall forcibly pressed upward upon the sole of the foot attempting to obtain as near as possible the normal arch of the foot, I applied a plaster cast extending from the toes to the calf. In this way I secured perfect rest of the inflamed parts as well as overcoming the deformity. Then with the use of sulfonal, tonics and electricity to the feet, applying one pole to the calf and passing the other over the exposed toes, I was enabled in six weeks to discharge her cured, which result I could never have accomplished had I continued the usual orthopedic treatment of steel supports.

As most general practitioners use the plaster cast in the treatment of Potts' disease, I cannot criticise their delay in sending to New York or Chicago, thus neglecting treatment until the brace is received. But there are many objections to the jacket; it becomes loose and fits badly after being worn for some time, every change in the size of the abdomen affects its bearing upon the back, and the size of the abdomen changes before, during and after each meal. It is hot and dirty unless it is so made as to be removable, but this requires considerable pains and experience. Very often bread crumbs and various foreign substances find their way under the jacket and cause deep sores and ulcers. It is very liable to chafe.

Yet there are some things in its favor: it is cheap, and for careless and ignorant patients, a jacket which is not removable is far preferable to any apparatus which they can misuse. I cannot see that a plaster jacket has any advantage whatever over a sole leather jacket, which any physician, with the assistance of a harness maker can make. It is much cheaper, as a good one will last an indefinite period and cost only from \$4.00 to \$6.00; then, too, it is much cooler, as it can be perforated without weakening the jacket.

For the proper treatment of caries of the spinal column only one thing is to be kept in view, and that is rest, thorough and complete rest, fixation. To do this there must be little or no forward or backward motion; the brace should work on the principle of a lever, the fulcrum being the diseased point of the spinal column.

The simplest, most efficient and the cheapest is a modification of the Dr. C. Fayette Taylor's brace (Fig. 2). Any machinist can make it and any doctor can take the measures and properly apply it, and so can any mother after the doctor has instructed her.

It consists of two uprights, A-A, of steel, $\frac{3}{8}$ or $\frac{1}{2}$ an inch in width, the thickness according to the size and the age of patient, that is, thick enough to be rigid; the lower ends of the uprights are attached together below to a hip band, B, which grasps the pelvis just a little above the hip joint; these uprights are joined together near the top by two small cross bars, C C, extending laterally a little beyond the uprights, the lower one

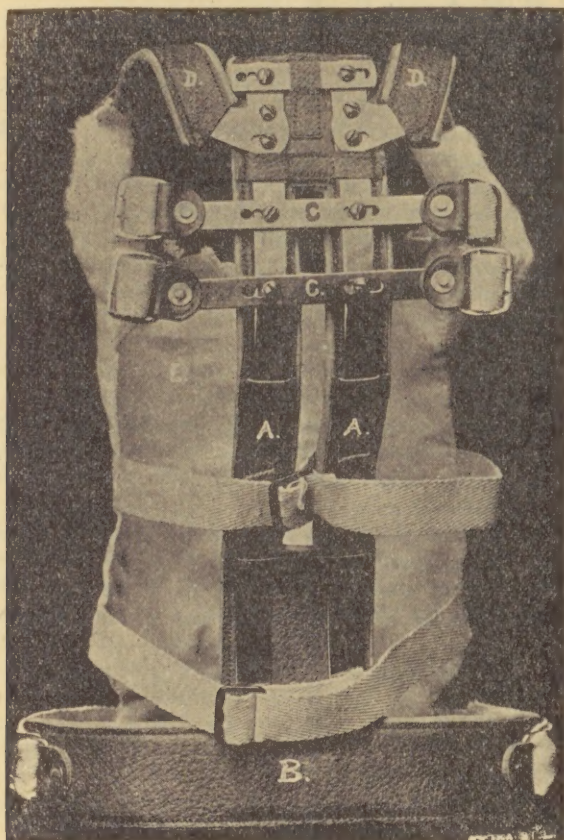


FIG. 2.

corresponding to about the inferior angle of the scapula and the other about one inch above it; the uprights to be far enough apart to rest upon the transverse processes of the vertebræ, not so close together that they squeeze or in any way press upon the spinous processes, and to be carried as far up as will be permitted without interfering with the movements of the neck; at the top of the uprights are attached two pieces of steel, D-D, one on either upright, which extend out and bend so as to fit over the shoulders.

This steel skeleton is to be covered with padding which any harness maker can do.

All that is left to be made is the apron, E, which is nothing more nor less than a strong piece of muslin, the length of which is from the top cross bar to the hip band, and of a width equal to its length; to this are attached four pairs of wide straps; one pair at the bottom to pass through buckles attached to the hip band; the two middle pairs to be brought around the body and strapped over the brace; the fourth or upper pair of straps, which are attached to the top of the apron, are brought behind and fastened to the buckles which are attached to the upper cross bar. There is also a padded strap, extending from the steel which passes over the shoulder, under the arm to the lower cross bar.

This brace can be changed from time to time by simply forcibly bending the uprights, with only one rule to be kept in mind, "always make the brace to fit the deformity."

In the treatment of upper dorsal and cervical Potts', I use the leather support referred to with the jury-mast attached, which is simple in its construction and application, or else put the patient to bed with an extension from the chin over the head of the bed.

I believe that there is an erroneous idea that patients are greatly injured by being kept in bed; certainly my experience has been just the reverse, as I have had a number of cases of Potts' disease, cervical and dorsal, in which this with constitutional treatment relieved the suffering, and the patients increased in weight.

According to Dr. Bauer, "a month's immobility of the spine by recumbency is more beneficial to the patient than three months of the plaster of Paris jacket ambulant." (*St. Louis Clinic*, July, 1890).

I am aware that my article has been of rather a rambling nature, but I have only attempted to prove that there is no panacea in orthopedic surgery, but like general medicine and surgery each case must be treated on its own merits.

DISEASES OF THE HIP-JOINT.*

BY ARTHUR J. GILLETTE, M. D.

The title of this paper, "Diseases of the Hip joint," is used instead of "Hip-joint Disease" because the latter term is applied more generally to a tuberculous inflammation, although, with authorities, I am inclined to believe that tuberculous hip-joint disease always begins as a simple inflammation following trauma, and by inoculation subsequently becomes tuberculous. There are diseases of the hip joint the origins of which, I am sure, are not due either to injury or to tubercle bacilli, but which are constitutional diseases with local manifestations.

I am prompted to choose this subject for two reasons:

First. At the onset, these cases always have the same clinical appearance as those of the more chronic, or of a true tuberculous nature, and in several instances my prognosis did not prove correct, although I am sure that my diagnosis was undoubtedly accurate as regards an inflammation of the hip joint.

Second. On several occasions, when I gave a prognosis in cases of chronic hip-joint disease, the family physician informed me that, by rest in bed, and extension by weight and pulley, he had cured cases of hip-joint disease in a few weeks. Thus was strengthened my belief in an inflammation non-tuberculous in the beginning, but with subsequent inoculation—usually occurring before it is placed in the hands of the specialist, and hence running a chronic course, with effusions and rupture of the joint capsule. Dissection of the soft parts may follow by the effusion becoming purulent, because of the breaking down of the soft parts, or of infection following the opening. This emphasizes the most important feature in the treatment of hip-joint disease, viz., an early diagnosis—since I believe it is sometimes possible to check the progress of these cases before they become chronic or tuberculous.

The occurrence of periostitis in the long bones, following scarlet fever, measles or typhoid fever, is not at all uncommon. Dr. Keen¹, of Philadelphia, has given a full account of all the bone-lesions following the continued fevers. He found 69 cases, of which 22 affected the head, 7 the trunk, 6 the upper and 42 the lower extremities. There were 37 cases following typhoid fever. As to the date of occurrence in 47 cases, 10 were within two weeks, 27 from three to six weeks, and 10 some months after the fever. Keen's explanation was that the earlier cases probably came from clot, and the later from enfeebled nutrition.² He found that the periostitis arose spontaneously or as a result of slight injury.

V. P. Gibney² read an original article before the American Orthopædic Association, entitled "Typhoid Spine," in which the clinical aspect resembled very closely that of beginning Pott's disease. In this paper he reports cases of disease of the hip which bear a

*Read before the Inter County Medical Society of Wisconsin, March 10, 1891.

¹Trans. of Amer. Orthopædic Assoc. vol. ii. "Typhoid Spine," by V. P. Gibney.

² Ibid., vol. ii.

close resemblance to tuberculous hip-joint disease. One was that of a young lady, eighteen years old, convalescing from typho-malarial fever and suffering with acute pain in the hip. Any movement of the limb would excite cries of pain. She was not of an hysterical, but rather of a lymphatic temperament. Weight and pulley and a traction hip-splint afforded relief in less than a month. A few months afterward there was no lameness, pain, or reflex spasm, although as compared with the other limb, there was some limit to the free range of motion. Dr. Gibney's conception of the pathology was a circum-articular lesion confined to the periosteum or ligaments. Another case was that of a boy aged thirteen. For four or five months after having had typhoid fever, while confined to his bed, he kept both limbs flexed on the abdomen, and during convalescence was unable to straighten them. He was poorly nourished, and quite unable to walk. The thighs were sharply flexed on the pelvis, the legs on the thighs, the heels touching the buttocks. Any attempt at motion of the right thigh caused reflex spasm.

At the meeting referred to all the members seemed to acquiesce in the views of the author, and many reported cases of joint troubles occurring in their own practice, following acute severe fever, the exanthemata, etc.

There is still another constitutional affection that I believe accounts for many diseases of childhood, and which often manifests itself in the form of joint-diseases. I refer to hereditary syphilis; and I would ask the general practitioners present: How many cases of acquired syphilis continue the treatment so long as you advise? Do they remain under your care after the initial sore is well? I have carefully questioned a number of fathers whose children I was treating for joint troubles, and have been somewhat surprised at the number who acknowledged that at some time previously to their marriage they had had suspicious sores. I am also aware that syphilis usually manifests itself by pemphigus of the hands and feet, various eruptions, a copper-colored discoloration of the skin characteristic snuffles or coryza, stomatitis, laryngitis, etc., and that all these symptoms usually occur before the end of the first year; but there are well-authenticated cases of hereditary syphilis in which the disease did not make its appearance until the twentieth and twenty-fifth years.

Some time ago a patient, a child not quite two years old, was sent me from a neighboring town, exhibiting all the symptoms of double hip-joint disease, and with no history of an injury. The disease had existed in the left leg for some months longer than in the right. The parents gave me the following history: The child had always been remarkably healthy, well-developed and intelligent, never having had any eruptions, although the parents thought it had been troubled with "snuffles." The teeth appeared punctually, and the fontanelles closed early. About three months prior to my seeing the child the first symptoms exhibited were loss of sleep and night cries. At times, if the left limb was handled a little roughly, the child would cry, but at other times this did not

produce the slightest uneasiness. From day to day it was observed that the child held the limb flexed and adducted; following this the right limb became tender, was soon flexed and adducted in the same manner, so that when I saw the child both limbs were adducted, both thighs were almost completely flexed upon the abdomen, and the legs flexed upon the thighs. In this position the child had been for a number of weeks, and in all my experience I have never, in any disease, witnessed a patient suffer such agony and excruciating pain. The slightest jar of the floor or bed would cause pain. When I saw the child, movement being so intolerable, the napkins had not been changed for a number of days. It was impossible to make an examination without etherization. Upon extension of the limbs there was the characteristic lordosis of the spine. After etherization this entirely disappeared. The left leg, in which the disease first manifested itself, was one-quarter of an inch shorter than its fellow, although it appeared longer. This, of course, was due to the tilting of the pelvis. I applied a plaster cast to keep the joints quiet. A general practitioner, administering ether, called my attention to the gums and teeth, which had the exact appearance described by Hutchinson. The gums were of a highly congested, swollen and peculiar spongy appearance. The child had also a severe laryngitis. The immobility of the hips did not relieve the pain. After a few days I applied a weight and pulley, and the child was asleep before I left the hospital. The flexion was not overcome so rapidly as usual under this treatment, although the pain was almost completely relieved. I then began the administration of mercury, both internally and by inunction. From the very time that this was administered the child began to improve. In ten days or two weeks, every bit of pain about the hips had disappeared, the inflammatory condition of the mouth was completely relieved, and at the end of six weeks the little patient was apparently well. Six months have now passed, and the child has not had any local treatment for three months; the hips are freely movable in every direction, and the child, to all appearances, is in perfect health. This history, together with the fact that the father acknowledged he had suffered from a sore on his penis, proves conclusively that it was a syphilitic hip joint, pure and simple.

Another case, I am sure you will agree with me, was undoubtedly syphilitic; it was referred to me by Dr. Sweeney, of St. Paul. The disease was of the right hip, in a boy aged seven years. There was apparent lengthening, but actual shortening; there was atrophy of the calf and thigh, but only slight tenderness; the leg was abducted and slightly flexed. The mother gave a history of the boy having had a similar attack four years previously. At that time the joint was very painful, and was put in a plaster cast; following this a peculiar eruption appeared, which puzzled the attending physician. A consultation was called and medicine given that caused the disappearance of the eruption, the symptoms about the joint immediately clearing up, and the child up to the present time seeming perfectly healthy. I applied the long traction-splint, and the mother, without consulting the family physician or myself, left for the country.

I did not see the child again for three months, when I was called, and found the child, of course, in a very much worse condition than when I first saw it. The thigh was flexed, the joint exceedingly tender, and there was swelling all about the hip. I had, in fact, a typical picture of a tuberculous joint. I reapplied adhesive plaster and a splint, and advised rest in bed. I continued this treatment for about ten days, with but little or no improvement. The mother called my attention to a peculiar eruption, which, she said, had appeared some time before, mostly on the upper part of the child's body. It was of a dull brownish-red color, with an ulcerated top, and varying in size from a pea to a nickel. At my request Dr. Sweeney was called, and he immediately placed the child under anti-syphilitic treatment. The child's general condition immediately improved, the aggravated symptoms about the joint disappearing as if by magic. I have since learned that from the habits of the mother she would be a very fortunate woman indeed if she had not at some time been infected with syphilis.* The father was also immoral. The child is still wearing the brace, and I fear has now a tuberculous hip, although I believe the origin of the disease was due to syphilis. Without doubt, syphilis is a distinct causative factor of rickets, and it is clearly demonstrated that among children affected with hereditary syphilis tuberculosis is rife¹.

¹ Annual of Universal Medical Sciences. vol. i., 1890, No. 29.

* Since the above was written I have met a physician who had treated the mother for syphilis.

